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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,691	03/20/2002	Harald Witzig	10191/2065	8525

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EXAMINER	
RO, BENTSU	
ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,691	WITZIG, HARALD	
	Examiner	Art Unit	
	Bentsu Ro	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-30* is/are pending in the application.

4a) Of the above claim(s) *30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16,17,25 and 26* is/are rejected.

7)☒ Claim(s) *18-24 and 27-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11/1/2001
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

FIRST OFFICE ACTION

1. Claim 30 should be amended. Claim 30 only contains the first line, the remaining text is missing. A new claim 30 should be re-submitted. In view of the foregoing reason, claim 30 is currently excluded from this prosecution.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 16, 17, 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth-Stielow et al US Patent No. 6,297,573 (hereinafter this reference is called "RS et al") in view of Morinaga et al US Patent No. 4,511,827 or vice versa.

Claims read onto the prior art teaching as follows:

The claims:	**RS et al or Morinaga et al teaching:**
16. (New) A brushless D.C. drive comprising:	Morinaga et al show a polyphase brushless dc motor, see Fig. 1 for example; RS et al Fig. 1 shows three-phase windings of a three-phase ac motor; it is noted that the ac motor is not a dc drive, however, the ac drive or the dc drive is actually immaterial for the following reasons:

Reasons:

(1) some prior art called a brushless dc motor as ac motor because the windings can be supplied with pseudo-sinusoidal ac voltage using a chopping circuit, such as an inverter;

(2) the motor windings always require a rotating field, such rotating field is made possible by an ac current;

(3) people call a "dc drive" or an "ac drive" depending on the power supply, if the power supply is an ac source, then it is an ac drive; if the power supply is a dc source, then it is a dc drive;

(4) in nowadays' technology, any motor can be driven by any power source because the converters and inverters are available for power source conversion; for example, a dc motor can be driven by an ac source by using a rectifier converter, and an ac motor can be driven by a dc source using an inverter, etc;

(5) most importantly, applicant's invention as well as RS et al teaching is immaterial with respect to an ac drive or a dc drive; applicant's protective circuit can be used in an ac drive or in a dc drive, so does the RS et al teaching.

a synchronous motor including a multiphase armature winding;	as explained before, the type of power source is immaterial, so does the type of motor; the requirement for this inventive subject matter is multiphase windings; RS et al Fig. 1 shows 3ϕ windings 2u, 2v, 2w; Morinaga et al Fig. 1 shows a poly-phase brushless motor 5;
a switching device controllable by an electronic controller to commutate the multiphase armature winding, and being connected upstream from the multiphase armature winding; and	Morinaga et al Fig. 1 shows an inverter;
a device to generate a fail-silent response,	RS et al Fig. 2 shows an electronic switch 4; the switch 4 does not generate any alarm sound, therefore it is a "silent" response; Fig. 2 also shows three temperature sensors T for sensing the over-temperature of the system's components, thus, the temperature sensors are used for fail response; Fig. 2 further shows an overvoltage measurement device 6 for overvoltage protection, thus, the overvoltage measurement device 6 is another fail-response device;
and including a separating arrangement to respond to a fault by separating connections between winding phases of the multiphase armature winding.	the rectifier bridge 10 and the electronic valve 12 together constitute a separating arrangement to respond to an overtemperature or overvoltage fault to separate the phase winding connections.

17. (New) The drive of claim 16, wherein a control unit is operable to detect the fault and to activate the separating arrangement.	RS et al Fig. 2 shows a control circuit 5 for starting a triggering action on a trigger unit 9 to activate the electronic valve 12 to open the armature winding connections.
25. (New) The drive of claim 17, wherein the separating arrangement is operable to cause a reversible separation of the connections between the winding phases of the multiphase armature winding.	The electronic valve 12 can be in an open state or a closed state, which is a reversible separation.
26. (New) The drive of claim 25, wherein the separating arrangement includes electric switching contacts arranged in the winding phases	the electronic valve 12 can be considered as an electric switching contact; alternatively, using a relay contactor instead of electronic valve 12 is considered an obvious design choice; it is noted that in many applications, a relay contactor and an electronic switch are interchangeable;
that are controllable at least one of electronically and mechanically.	the trigger unit 9 is an electronic control device.

Now applicant might ask why the examiner combines two references for the rejection of claims, namely, what is the motivation ?????

It is noted that RS et al only teach a small portion of a complete motor control system. RS et al only show the motor windings with central terminals connections and a protective device connected to the central terminals. However, a complete system as a whole may include several other elements which may or may not relate to the connections of RS et al.

In order to provide the missing part of the complete system, a second reference (Morinaga et al) is needed. The examiner must emphasize that the Morinaga et al teaching does not modify or change the RS et al circuit arrangement, nor correct the insufficiency of RS et al circuit. The RS et al motor circuit can simply be used to replace the motor circuit of Morinaga et al.

ALTERNATIVELY

It would have been obvious to a skilled person in the art to include the protective motor central terminal connections of RS et al into Morinaga et al motor to achieve the same subject

matter as claimed in claim 1 because incorporated RS et al center tap protective connections increases the reliability of Morinaga's motor operation.

4. Claims 18-24 and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 703 308-3656.

October 9, 2003

Bentsu Ro
Primary Examiner